the voltage across the winding is 1.73Vout. Finally, when S=3 **(Fig. 2e)**, the phase angle difference is 160 degrees, and the voltage across the winding is 1.97Vout. For the same inverter output voltage, different connections place different voltage across the windings, and will cause different currents to flow in the windings. The different mesh connections cause the motor to present a different impedance to the inverter.

As disclosed above, in an induction machine, each motor winding set can be described by two terminals. There may be a larger number of terminals, but these are always grouped in series or parallel groups, and the entire set can be characterized by two terminals. Thus whilst Fig. **2** discloses a single motor winding **1** connected to terminals **4** and **6**, it is to be understood that this limitation is made to better illustrate the invention; multiple phase windings connected between the terminals are also considered to be within the scope of the present invention.

In the drawings

Replace Figs. 2a and 2b with new Figs. 2a and 2b.

In the Claims

Please cancel claim 59 without prejudice.

Please amend claims 34, 42, 50, 67, 83, 84, and 89 to read as follows:

C5

34. A high phase order induction machine drive system, comprising

a) an inverter system for the synthesis of a plurality of phases of alternating current output, each phase electrically connected to at least one inverter terminal, and

b) an induction motor comprising N phases, where N is greater than 3, connected mesh to said inverter terminals, said mesh characterized in that:

each motor phase is electrically connected to:

(i) a first inverter terminal, and

(ii) a second inverter terminal S skipped terminals distant from said first inverter terminal in order of electrical phase angle, where S is the skip number and represents the number of skipped terminals;

C5
cont

and the phase angle difference between the two inverter terminals to which each motor phase is connected is identical for each motor phase.

C6

42. The high phase order induction machine drive system of claim 34 wherein said alternating current output is selectable between a fundamental frequency component and a fundamental frequency component multiplied by three.

C7

50. The high phase order induction machine drive system of claim 49 wherein S = (N-3)/2.

C8

67. The high phase order induction machine drive system of claim 34 wherein said motor phases comprise a single inductor per slot.

C9

83. A high phase order induction motor having more than three phases, connected to inverter output elements with a mesh connection, said mesh characterized in that: each motor phase is electrically connected to a first inverter terminal and a second inverter terminal S skipped inverter terminals distant from the first inverter terminal in order of electrical phase angle, where S is the skip number, and the phase angle difference between the pair of inverter terminals to which each motor phase is connected is identical for each motor phase.

84. The high phase order induction machine of claim 83 wherein N is the number of phases of the motor, and wherein N is odd and wherein S = (N-3)/2.

C10

88. The high phase order induction motor of claim 83 wherein S = 0.

89. The high phase order induction motor of claim 83 wherein N is the number of phases of the motor, and wherein S = (N/3)-1, rounded to the nearest integer.

Response to Examiner's Comments

Objections to the Specification

The abstract of the disclosure is objected to because it should be placed on a separate page (Office Action mailed 26 September 2002; item 1). The amended abstract is now attached, placed on a separate page. Applicant respectfully